

Amendment Under 37 CFR 1.116
Dated December 12, 2003
Serial No. 09/697,198

IN THE CLAIMS

Please rewrite the indicated claims to read as follows:

Claim 1. (Currently Amended) Wavelength stabilizing apparatus for use in stabilizing the wavelength of an optically pumped tunable laser to a predetermined target wavelength, wherein the optically pumped tunable laser provides an output laser signal having an instantaneous wavelength and the optically pumped tunable laser is optically pumped by a pump laser signal provided by a pump laser, the pump laser signal having an intensity, the pump laser and the optically pumped tunable laser each having a gain medium and each gain medium having an electrooptical performance characteristic, the wavelength stabilizing apparatus comprising:

a wavelength measuring module for detecting a difference between ~~an~~ the instantaneous wavelength of the output laser signal and the predetermined target wavelength, and for generating an output error signal which is representative of the difference; and

~~wherein the target wavelength is selected from a range of wavelengths corresponding to a tuning voltage applied across a top electrode and a bottom electrode of the tunable laser;~~

a control unit for receiving said output error signal from said wavelength measuring module and for providing a control signal to the pump laser suitable for modifying the electrooptical performance characteristic of a the gain medium of the tunable the pump laser in accordance with said output control signal, wherein the modified electrooptical performance characteristic of the gain medium so as to modulates the intensity of the pump laser signal, wherein the modulated pump laser signal modifies the electrooptical performance characteristic of the gain medium of the optically pumped tunable laser, wherein lock the the wavelength of the output laser signal of the optically pumped tunable laser to is its adjusted to substantially equal the predetermined target frequency wavelength.

Claim 2. (Currently Amended) Wavelength stabilizing apparatus according to claim 1 wherein the pump tunable laser is an electrically pumped laser having an injection current and wherein the control unit is adapted to adjust the injection current applied to the gain medium, wherein

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adjustments to the injection current modify the electrooptical performance characteristic of the gain medium of the pump laser and thereby modify the intensity of the pump laser signal and thereby, and further wherein said control unit is adapted to adjust an injection current applied to the gain medium of the tunable laser so as to modify the electrooptical performance of the gain medium of the optically pumped tunable laser.

Claim 3. (Cancelled)

Claim 4. (Cancelled)

Claim 5. (Currently Amended) A laser system comprising:

an optically pumped tunable laser; and

a pump laser providing a pump laser signal having an intensity, the pump laser having a gain medium, the gain medium having an electrooptical characteristic, the pump laser signal being optically coupled to the optically pumped tunable laser, wherein the optically pumped tunable laser provides a laser output signal having a wavelength;

wavelength stabilizing apparatus for use in stabilizing the wavelength of the laser output signal a tunable laser to a target wavelength, said wavelength stabilizing apparatus comprising:

a wavelength measuring module for detecting a difference between an instantaneous wavelength of the laser output signal and the target wavelength, and for generating an output error signal which is representative of the difference; and

wherein the target wavelength is selected from a range of wavelengths corresponding to a tuning voltage applied across a top electrode and a bottom electrode of the tunable laser;

a control unit for receiving said output error signal from said wavelength measuring module and operative to provide a control signal to the pump laser suitable for modifying said electrooptical performance characteristic of a the gain medium of the tunable the pump laser in accordance with said output control signal, wherein the modified electrooptical performance

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characteristic of the gain medium of the pump laser modulates the intensity of the pump laser signal, wherein the modulated pump laser signal modifies the electrooptical performance characteristic of the gain medium of the optically pumped tunable laser, -so as to ~~look- adjust~~ the tunable laser to its target ~~frequency-wavelength~~.

Claim 6. (Currently Amended) A method for stabilizing the wavelength of an optically pumped tunable laser to a target ~~frequency-wavelength~~, said method comprising:

determining a target wavelength a laser signal emitted from of the optically pumped tunable laser from a range of wavelengths corresponding to a tuning voltage applied across a top electrode and a bottom electrode of the tunable laser;

detecting a difference between an instantaneous wavelength of the laser and the target wavelength, and generating an output signal which is representative of the difference; and

modifying an electrooptical performance characteristic of a gain medium of a pump laser providing a pump laser signal to the optically pumped tunable laser in accordance with said output signal so as to ~~look-adjust~~ the laser signal from the tunable laser to ~~its-the predetermined~~ target ~~frequency-wavelength~~.